



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,940	05/20/2002	Erwin Krimmer	R.38664-1	2588
2119	7590	02/02/2004	EXAMINER	
RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314			DONOVAN, LINCOLN D	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/049,940

Applicant(s)

KRIMMER ET AL.

Examiner

Lincoln Donovan

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-25 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) 26 and 37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-25 and 27-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 26 and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claimed specie, there being no allowable generic or linking claim. Election was made **without** traverse in the response filed 10-17-03.

### ***Drawings***

The drawings are objected to because magnet yoke 13 should be cross-hatched as a magnetically conductive material. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 21 is objected to because of the following informalities: "claim20" should be corrected as – claim 20 --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-23 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 29, there is no antecedent basis for "the embodiment."

### ***Claim Rejections - 35 USC § 103***

Art Unit: 2832

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-25 and 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Najmolhoda [US 4,988,074] in view of Fuchs [US 5,029,807].

Regarding claims 18, 24, 27-32 and 35-36, Najmolhoda disclose an actuator comprising:

- an electromagnet [14] including a coil [16];
- a core structure [32];
- an armature [20] axially movable within the core between two end positions by supplying current to the coil biased into a neutral stable position [column 4, lines 10-55];
- an actuator means [38] driven by the armature; and
- a pair of suspension members [26, 62] mounted at each opposing end of the armature guiding the armature.

Najmolhoda disclose the instant claimed invention except for the armature being biased in a middle position and the suspension members providing a bistable latching mechanism.

The particular bias of the armature and current supplied to the coil to control armature movement would have been an obvious design consideration based on the application of the device to be actuated.

Art Unit: 2832

Fuchs discloses a solenoid valve [1] having an armature member [12] supported by a snap action latching spring [14].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the latching spring design for the springs of Najmolhoda in order to bias the armature and provide latching.

Regarding claims 33-34, Najmolhoda disclose the instant claimed invention except for the specific application for the device.

The specific application of the device would have been an obvious design consideration based on the specific operation needed to be executed.

Claims 19-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Najmolhoda, as modified, as applied to claim 18 above, and further in view of Swanson [US 4,178,573].

Najmolhoda, as modified, disclose the instant claimed invention except for the use of a u-shaped core supporting the armature and the armature.

Swanson discloses a u-shaped core [24] supporting an armature assembly [66] inserted through openings in the core structure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the core design of Swanson for the yoke of Najmolhoda, as modified, for the purpose of controlling flux distribution.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2832


- Koga et al. [US 6,073,908], Opel et al. [US 3,429,340] and Casey et al. [US 4,605,197].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 703 308-3111. The examiner can normally be reached on M-F 8:30-5:00.

The fax phone number for the organization where this application or proceeding is assigned is 703-305-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1920.

ldd  
1/25/04

  
LINCOLN DONOVAN  
PRIMARY EXAMINER  
GROUP 2103